

Notice of Allowability

Application No.

10/517,371

Examiner

Jason M. Perilla

Applicant(s)

OURA ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed October 3, 2007.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20071113.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. Claims 1-9 are pending in the instant application.
2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Howard Bernstein on October 3, 2007.

The application has been amended as follows wherein the following versions of claims 2-9 replace all prior versions in their entirety:

2. The CDMA receiving device according to Claim 1, wherein said first switching means (112, 215, 315, 423) stores the estimated value for the interference noise power estimated in the current slot by the interference noise power calculation means for each one of the plurality of fingers (106, 206, 306, 406) into said storage means (110, 217, 317, 425) if said one of the plurality of fingers is first judged to be valid after the radio link is established by said first judging means (115, 213, 313, 421).
3. The CDMA receiving device according to Claim 1 or 2 further comprising:
second judging means (223) for judging whether or not each of the plurality of fingers is are successively in a valid state for a given period of time;
second averaging means (221) for averaging the estimated values for the interference noise power among the plurality of fingers;
second switching means (219) for allowing said second averaging means (221) to average the average estimated value for the interference noise power, which is averaged by said first averaging means (208), based on a judged result by said second judging means (223); and

third switching means (210) for outputting either one of an averaged result by said first averaging means (208) and an averaged result by said second averaging means based on a judged result by said second judging means (223).

4. The CDMA receiving device according to Claim 3, wherein:

said second switching means (219) allows said second average means (221) to use the estimated value for the interference noise power ~~for a~~ among the plurality of fingers, if said plurality of fingers ~~is~~ are judged to be successively valid for a given period of time by said second judging means (223); and

said third switching means (210) outputs an averaged result by said second averaging means (221) instead of said estimated value for the interference noise power for ~~a one of~~ said plurality of fingers if said one of said plurality of fingers is judged to be valid though not ~~continued~~ continually valid for a given period of time by said second judging means (223).

5. The CDMA receiving device according to Claim 1 or 2, wherein said storage means (317) stores only the estimated value for the interference noise power of ~~one~~ the last valid slot before for each of the plurality of fingers, said CDMA receiving device further comprising:

second judging means (319) for judging whether or not each of the plurality of fingers is successively in a valid state for a given period of time; and

second switching means (310) for switching whether or not the average estimated value for the interference noise power averaged for each of the plurality of fingers by said first averaging means (308) is output based on a judged result by said second judging means (319).

6. The CDMA receiving device according to Claim 5, further comprising:

signal-power-to-interference-noise-power ratio calculation means (324) for calculating a signal-power-to-interference-noise-power ratio based on an output of said second switching means (310), and ~~a~~ demodulated-signal combining means (328) for combining the demodulated signal based on a calculated result by said signal-power-to-interference-noise-power ratio calculation means (324); and

third switching means (326) for outputting the demodulated signal to said demodulated-signal combining means (328) based on the judged result by said second judging means (319).

7. The CDMA receiving device according to Claim 6, wherein:

said second switching means (310) outputs an output of said first averaging means (308) if for each of said plurality of fingers is judged to be successively valid for a given period of time by said second judging means (319), and does not output the average estimated value for the interference noise power averaged by said first averaging means (308), for each of if said plurality of fingers is judged not to be successively valid for a given period of time by said second judging means (319); and

said third switching means (326) outputs said demodulated signal to said demodulated-signal combining means (328), for each of if said plurality of fingers is judged to be successively valid for a given period of time by said second judging means (319), and does not output the demodulated signal to said demodulated-signal combining means (328), for each of if said plurality of fingers is judged not to be successively valid for a given period of time by said second judging means (319).

8. The CDMA receiving device according to Claim 1 or 2, wherein said storage means (425) stores therein only the estimated value for the interference noise power of ~~one the last valid slot before~~ for each of the plurality of fingers, said CDMA receiving device further comprising:

interference-noise-power-calculation-dedicated demodulation means (410) for demodulating the received signal by using an arbitrary synchronization timing, second interference-noise-power calculation means (412) for estimating the interference noise power in said current slot for said demodulated signal demodulated by said interference-noise-power-calculation-dedicated demodulation means (410), second averaging means (414) for averaging an interference noise power in said current slot estimated by said second interference noise power calculation means (412) and the estimated value for the interference noise power stored in said storage means (425); and

second judging means (419) for judging whether or not said plurality of finger is are successively in a valid state for a given period of time, and second switching means (416) for outputting either one of an averaged result by said first averaging means (408) and an averaged result by said second averaging means (414) based on the judged result by said second judging means (419).

9. (original): The CDMA receiving device according to Claim 8, wherein said second switching means (416) outputs an output for each of said first averaging means

(408), for each corresponding ~~if said~~ finger is judged to be successively valid for a given period of time by said second judging means (419), and outputs an output of said second averaging means (414), if said finger is judged not to be successively valid for a given period of time by said second judging means (419).

Allowable Subject Matter

3. Claims 1-9 are allowed.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

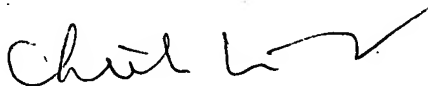
Application/Control Number:
10/517,371
Art Unit: 2611

Page 6

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jason M. Perilla
November 14, 2007

jmp


CHIEH M. FAN
SUPERVISORY PATENT EXAMINER